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	Cost-per-mile [Cost-per-km]	Assumptions
New 2 Lane		
Grading & Drainage	$650,000 [$405,000]	44 ft. [13.2 m] Roadbed
Base & Surface	$985,500 [$612,360]	Medium Duty PCCP
Add Lanes for Dual Lanes		
Grading & Drainage	$575,000 [$360,000]	38 ft. [11.4 m] Roadbed
Base & Surface	$858,900 [$533,700]	Medium Duty PCCP
	$1,099,600 [$683,300]	Heavy Duty PCCP
New 4 Lane		
Grading & Drainage	$1,000,000 [$620,000]	2 - 38 ft. [11.4 m] Roadbed & Median
Base & Surface	$1,717,800 [$1,067,400]	Medium Duty PCCP
	$2,199,100 [$1,366,500]	Heavy Duty PCCP
Outer Road		
Grading & Drainage	$415,000 [$260,000]	28 ft. [8.4 m] Surface & 6 ft. [1.8 m] Shld.
Aggregate Surface	$108,300 [$67,300]	
Paved Surface	$356,500 [$221,500]	28 ft. [8.4 m] Light Duty AC 8 in. [200 mm] Total AC thickness, 4 in. [100 mm] Type 5, 8 in. [200 mm] Ag. Shld.

Interchanges-Ramps Only, Excludes bridges and crossroad

• **Diamond**	**Lump sum each**
Grading & Drainage	$ 1,050,000
Base & Surface	$650,300
• **Cloverleaf**	
Grading & Drainage	$2,110,000
Base & Surface	$1,626,400

Note: Grading cost includes 30% Rock and assumes Medium Grading.

Grading Adjustment Factors

Light: 0.7; Medium: 1.0; Heavy: 3.0

Use these grading factors, unless justified with district information and proper documentation.

Miscellaneous and Utility Costs may be assumed to total **20 percent** of the sum of grading & drainage, and surface & base, unless additional analysis is warranted.

Bridge Structures	**Cost per Sq. foot**	**Cost per Sq. meter**
Prestress Concrete	$60	$665
Steel Girder	$75	$835
Temporary Bridge (State furnished)	$45	$485
Temporary Bridge (Contractor furnished)	$125	$1345
Major Lake Crossing	$155	$1665
Major River Crossing	$180	$1940

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- **Percentage Cost Factors:**

  Bridge costs per square foot [square meter] should be increased for the following:

Item	% Increase
Stage Construction	10
Horizontal Curve Alignment	5
Seismic Category B*	15
Seismic Category C*	25
Seismic Category D*	40
Tight Site/Limited Access	10

* See Sheets 3 and 4 of this figure for details of seismic categories.

- **For Stream Crossings:**

  Bridge Replacement Length = 1.25 X Existing Bridge Length, unless otherwise documented. The existing bridge length can be obtained from TMS.

  Bridge replacement length may be longer than 1.25 X Existing Bridge Length for bridges crossing FEMA regulatory floodways. Bridges on new alignments are required to span the entire floodway. For bridges on existing alignment, use 1.25 X Existing Bridge Length when the 100-year flood does not overtop the existing roadway. When the 100-year flood does overtop the existing roadway, the new bridge will be required to span the entire floodway.

- **For Companion Grade Separation Structures:**

  Bridge Replacement Length = Existing Bridge Length. The existing bridge length can be obtained from TMS.

  Bridge Width should equal traveled way, shoulders and barrier rail width.

- **Bridge Approaches:**

  The cost of bridge approaches should be added to the total cost derived from the approach slab area. Bridge slab cost:

  English: ($17/ft^2) (roadway width, ft) (25 ft.) (2)
  Metric: ($182/m^2) (roadway width, m) (8.0 m) (2)

Bridge Removals	**Cost per Sq. foot**	**Cost per Sq. meter**
Simple Structures	$5	$55
Steel Structures over Roads	$7	$75
Concrete Structures over Interstates (quick opening of lanes to traffic required)	$25	$280

Specialized Projects

Projects having unusual features and special scopes of work should be compared to similar types of district projects using historic data. Generic cost information listed in this guide should not be applied for projects such as traffic signal improvements, geometric improvements, and other types of small projects. Check with the Design Division Bidding and Contract Services for assistance.

Additional costs should be included in the project estimate for retaining walls, extensive sound walls, temporary bypasses and traffic signals.

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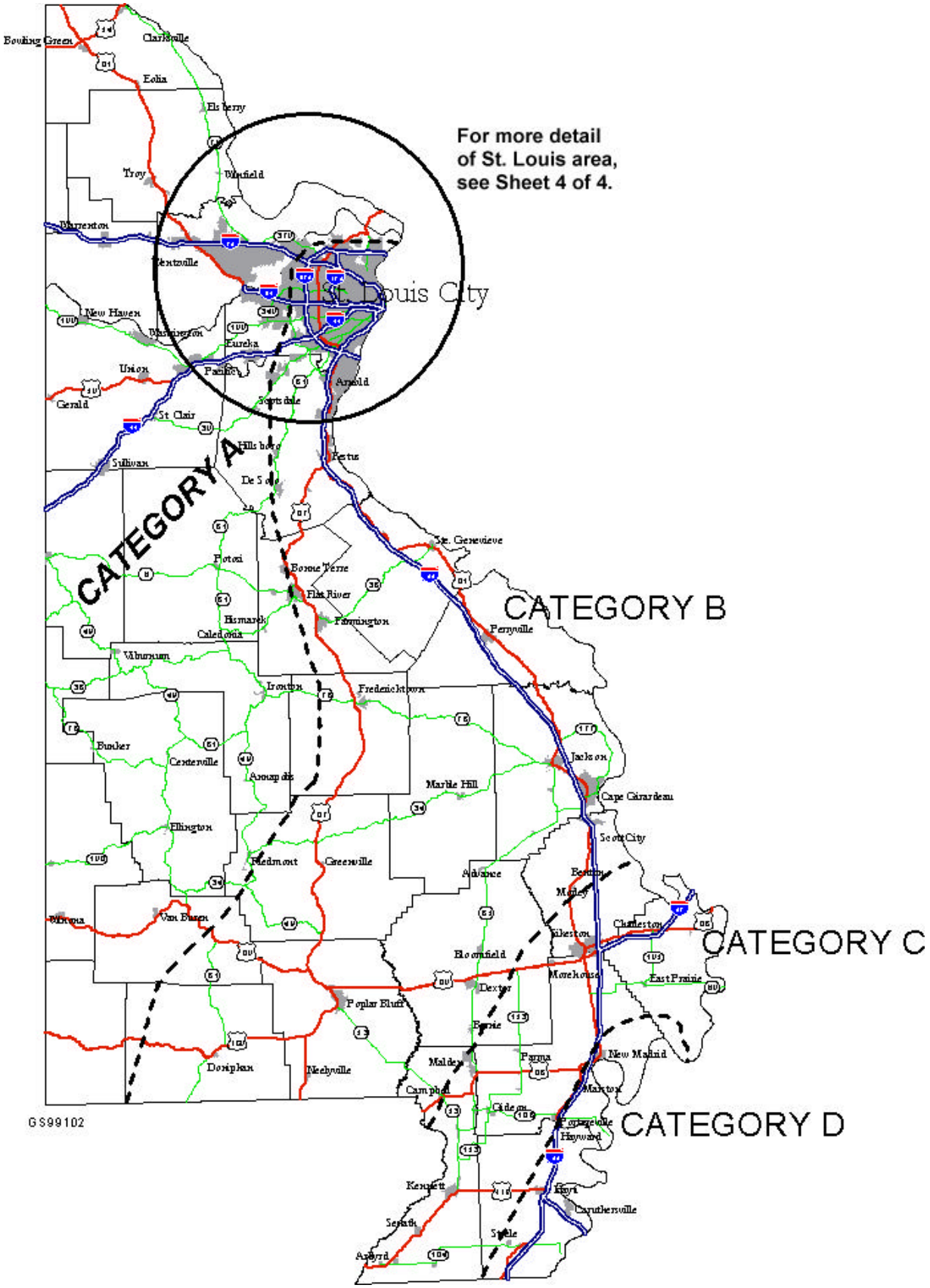

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